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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

EWALD, MARIA VERONICA

ART UNIT

PAPER NUMBER

1722

MAIL DATE

DELIVERY MODE

06/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/510,115	JEANJEAN ET AL.	
	Examiner	Art Unit	
	Maria Veronica D. Ewald	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-10, 12, 21, 23, and 28 is/are rejected.
- 7) ☒ Claim(s) 5-8, 11, 13-20, 22 and 24-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

13. Claims 5 – 8, 11, 13 – 20, 22, 24 – 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: Prior art, fails to teach or suggest, either alone or in combination, that the secondary piston has a first section sliding on an inner wall of the cylinder and demarcating the first pressure space on a side facing the primary piston, said secondary piston further including a second section extending in prolongation of the first section and having a diameter which is smaller than an inner diameter of the cylinder so that a third pressure space in the form of an annular gap is defined between the cylinder and the secondary piston; wherein the cylinder has a first section with a first inner diameter and a second section with a second inner diameter, wherein a region passed by the secondary piston during its movement is located within the second section, and wherein only the second section has a surface to satisfy hydraulic requirements.

Prior art also fails to teach or suggest, that the cylinder is secured to the support platen, or an end piece of the cylinder is configured as support platen, wherein the support platen has bores for passage of the secondary piston, wherein the piston rod is mounted to the moving platen and further comprising at least one auxiliary cylinder

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provided on the support platen or the fixed platen and having a piston rod mounted to the moving platen.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 4, 9 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hehl, (U.S. 5,129,806). Hehl teaches a hydraulic device for back and forth movement as well as locking of a machine part in particular for opening, closing and clamping half-molds of an injection molding tool of an injection molding machine, comprising: a cylinder having a first pressure space with a pressure medium (item 52 – figure 1), a primary piston wherein the primary piston which includes at least one piston rod and is constructed to float in the pressure medium in the first pressure space (item 43 – figure 1) and a secondary piston axially movable in the cylinder and sized to bound the first pressure space on one side thereof in any axial disposition thereof having a recess in which the piston rod of the primary piston is movable, said primary and said secondary pistons having opposing sides to define confronting contact surfaces which contact one another when the half-molds are clamped (item 25 – figure 1; column 4, lines 10 – 11); wherein the opposing sides of the primary and secondary pistons are so configured as to form a second pressure space (item 50 – figure 1), when the contact surfaces

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between the primary piston and secondary piston touch one another, and further comprising a passageway which feeds into the second pressure space and is provided for decompressing the pressure medium trapped in the second pressure space (item 61 – figure 1; column 4, lines 16 – 25); wherein the device further comprises means for generating a negative pressure in the second pressure space (item 50 - figure 1; column 4, lines 40 - 50); wherein the contact surface of the primary piston and the contact surface of the secondary piston are conical (figure 1); wherein the cylinder has an end which faces a moving platen of a three-platen clamping unit of an injection molding machine and has an end piece which is configured as support platen of the three-platen clamping unit, said piston rod is being securable to the moving platen (item 13 – figure 1; column 4, lines 1 - 5).

With respect to claim 12, Hehl also teaches a clamping unit for an injection molding machine comprising: a support platen (item 52 – figure 1; see end wall facing movable platen); a fixed platen (item 11 – figure 1); a moving platen (item 13 – figure 1); and a hydraulic device for operating the moving platen, said hydraulic device including a cylinder having a first pressure space with a pressure medium (item 52 – figure 1); a primary piston which includes at least one piston rod and is constructed to float in the pressure medium in the first pressure space (item 43 – figure 1), and a second piston axially movable in the cylinder and sized to bound the first pressure space on one side thereof in any axial disposition thereof, said secondary piston having a recess in which the piston rod of the primary piston is movable, said primary and second pistons having

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opposing sides to define confronting contact surfaces which contact one another when the fixed and moving platens are clamped (item 25 – figure 1; column 4, lines 10 – 11).

Claims 1 – 4, 9 – 10, 12, 21, 23 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Wohlrab (U.S. 4,443,179). Wohlrab teaches a hydraulic device for back and forth movement as well as locking of a machine part in particular for opening, closing and clamping half-molds of an injection molding tool of an injection molding machine, comprising: a cylinder having a first pressure space with a pressure medium (item 12 – figure 1), a primary piston wherein the primary piston which includes at least one piston rod and is constructed to float in the pressure medium in the first pressure space (item 13 – figure 1) and a secondary piston axially movable in the cylinder and sized to bound the first pressure space on one side thereof in any axial disposition thereof having a recess in which the piston rod of the primary piston is movable (item 6 – figure 1), said primary and said secondary pistons having opposing sides to define confronting contact surfaces which contact one another when the half-molds are clamped (column 4, lines 19 – 22); wherein the opposing sides of the primary and secondary pistons are so configured as to form a second pressure space (item 11 – figure 1), when the contact surfaces between the primary piston and secondary piston touch one another, and further comprising a passageway which feeds into the second pressure space and is provided for decompressing the pressure medium trapped in the second pressure space (item 25 – figure 1); wherein the device further comprises means for generating a negative pressure in the second pressure space (column 4,

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lines 1 – 30); wherein the contact surface of the primary piston and the contact surface of the secondary piston are conical (figure 1); wherein the cylinder has an end which faces a moving platen of a three-platen clamping unit of an injection molding machine and has an end piece which is configured as support platen of the three-platen clamping unit, said piston rod is being securable to the moving platen (figure 1).

With respect to claims 9 – 10, Wohlrab further teaches that the cylinder has an end which faces a moving platen of a three-platen clamping unit of an injection molding machine and has an end piece which is configured as a support platen of the three-platen clamping unit, said piston rod being securable to the moving platen (item 9 – figure 1); wherein the primary piston has a side which is distal to the secondary piston and has a further piston rod defined by a diameter which is smaller than a diameter of the first piston rod, said further piston rod projecting beyond the cylinder (item 19 – figure 1).

With respect to claim 12, Wohlrab further teaches a clamping unit for an injection molding machine comprising: a support platen (item 5 – figure 1); a fixed platen (column 3, lines 20 – 30); a moving platen (item 1 – figure 1); and a hydraulic device for operating the moving platen, said hydraulic device including a cylinder having a first pressure space with a pressure medium (item 9 – figure 1); a primary piston which includes at least one piston rod and is constructed to float in the pressure medium in the first pressure space (item 13 – figure 1), and a second piston axially movable in the cylinder and sized to bound the first pressure space on one side thereof in any axial disposition thereof (item 6 – figure 1), said secondary piston having a recess in which

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the piston rod of the primary piston is movable, said primary and second pistons having opposing sides to define confronting contact surfaces which contact one another when the fixed and moving platens are clamped (column 4, lines 19 – 22).

With respect to claims 21, 23 and 28, the reference also teaches a clamping unit for a two-platen injection molding machine, comprising: a fixed platen (column 3, lines 20 – 30); a moving platen (item 1 – figure 1); and a hydraulic device for operating the moving platen, said hydraulic device including a cylinder having a first pressure space with a pressure medium (item 9 – figure 1), a primary piston which includes at least one piston rod and is constructed to float in the pressure medium in the first pressure space (item 13 – figure 1), and a secondary piston axially movable in the cylinder and sized to bound the first pressure space on one side thereof in any axial disposition thereof (item 6 – figure 1), said secondary piston having a recess in which the piston rod of the primary piston is movable (figure 1), said primary and secondary pistons having opposing sides to define confronting contact surfaces which contact one another when the fixed and moving platens are clamped (column 4, lines 19 – 22), wherein the primary piston has a side which is distal to the secondary piston and has a second piston rod defined by a diameter which is smaller than a diameter of the first piston rod, said further piston rod projecting beyond the cylinder (item 19 – figure 1); wherein the recess in the secondary piston is cylindrical and has an end which is distal to the primary piston and closed by an end piece so that a pressure space is formed in the secondary piston (item 14 – figure 1); wherein the pressure space in the secondary piston is decompressible during a closing movement of an injection molding tool and

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connectable to a pressure medium source for an opening movement of an injection molding tool (column 4, lines 1 – 30).

Response to Arguments

14. Applicant's arguments filed August 4, 2006 have been fully considered and are persuasive. Applicant argued that Hehl (U.S. 5,129,806) did not teach a primary piston that floats in the pressure medium and a primary piston, which includes at least one piston rod. In the previous office action, Examiner identified piston 25 as the primary piston and piston 43 as the secondary piston. Examiner clarifies this position and has identified piston 43 as the *primary piston and piston 25 as the secondary piston. Thus, piston 43 does float within the pressures medium as its diameter is less than the cylinder inner diameter and piston 25 contacts the cylinder walls despite any axial disposition thereof.*

With respect to the reference of Wohlrab (U.S. 4,443,179), Applicant argued that the piston face 15 does not contact the rear face of the secondary piston 14. Though this is true, Applicant does not claim that the opposing sides of the piston are on the same side as the recess. Thus, the apparatus of Wohlrab has on its opposite end of the piston face 15, a valve disk 23 which in its open position, contacts the flat surface of the secondary piston, and *thus, the primary and secondary pistons have opposing sides to define confronting contact surfaces.*

With respect to the rejections as anticipated by Hehl (U.S. 5,547,366), Examiner agrees with Applicant's arguments and thus, the rejection has been withdrawn.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Veronica D. Ewald whose telephone number is 571-272-8519. The examiner can normally be reached on M-F, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MVE


ROBERT DAVIS
PRIMARY EXAMINER

GROUP 1300 1200

5/29/07